Atlantic Resource Co, LLC

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Bass Harbor, ME 04653
Tel 207.944.7288
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www.arc-env.com



August 3, 2021

Jim Boyle, Project Manager

Maine Woodland Properties

25 Dundee Road

Gorham, ME

via email: jamesallenboyle@gmail.com

RE: Preliminary Soil Assessment-Miro Property-Route 184, Lamoine, ME

Dear Jim,

As requested, Atlantic Resource Co, LLC (ARC) has completed preliminary soil test pit explorations for the Miro property under contract by Maine Woodland Properties on Route 184 in Lamoine, Maine. The parcel is shown as Map 3, Lot 32 on the municipal tax maps. The purpose of the investigation was to determine if the proposed lots had suitable areas for onsite wastewater disposal. We understand that the proposed lot lines may be adjusted and that additional test pits may need to be conducted.

In July of 2021, we completed preliminary soil investigations to identify potential areas for wastewater disposal. The test pits are shown on the attached plan. The soils along the lower region of the parcel, closest to the shore are dominated by silt loam to silty clay loam glaciomarine sediments and are classified as Profile 8 or 9 soils. The upper area along Route 184 contains better drained soils dominated by very fine sandy loam over loamy sand soils. These soils are associated with stratified glacial drift and glaciolacustrine deposits and are classified as Profile 7 and 8. Bedrock was not encountered in any of the test pits. The test pits attached meet the minimum requirements for onsite wastewater disposal in the current version of the Maine Subsurface Wastewater Rules, CMR-241. Test pits within the shoreland zone require a minimum of 15" of suitable soil over a limiting factor such as bedrock. Soils outside the shoreland zone require a minimum of 9" of suitable soil over a limiting factor.

The test pits indicate a suitable area for wastewater disposal for a typical 3-bedroom residence and meet the minimum setbacks of 10' from a property line, 100' from a major water body, 50' from a minor water body and 100' from any potable water supply wells. While a complete HHE-200 septic



200 septic design was not done at this time, a typical wastewater disposal system for a three bedroom residence on a Profile 9 soil would consist of a 1,000 gallon septic tank and a 22' x 40' disposal field of 15 concrete chambers. Wastewater disposal fields for Profile 7 and 8 soils would require a smaller footprint than Profile 9 soils. While the test pits shown indicate a suitable area for a typical 3 bedroom residence on each lot, additional capacity is likely available but was not investigated at this time. Because the lot lines are not yet determined, the property line setbacks should be reviewed and confirmed.

Please see the attached test pit logs and site sketch and contact us with any questions or for further information. We appreciate the opportunity to provide you with this report.

Sincerely,

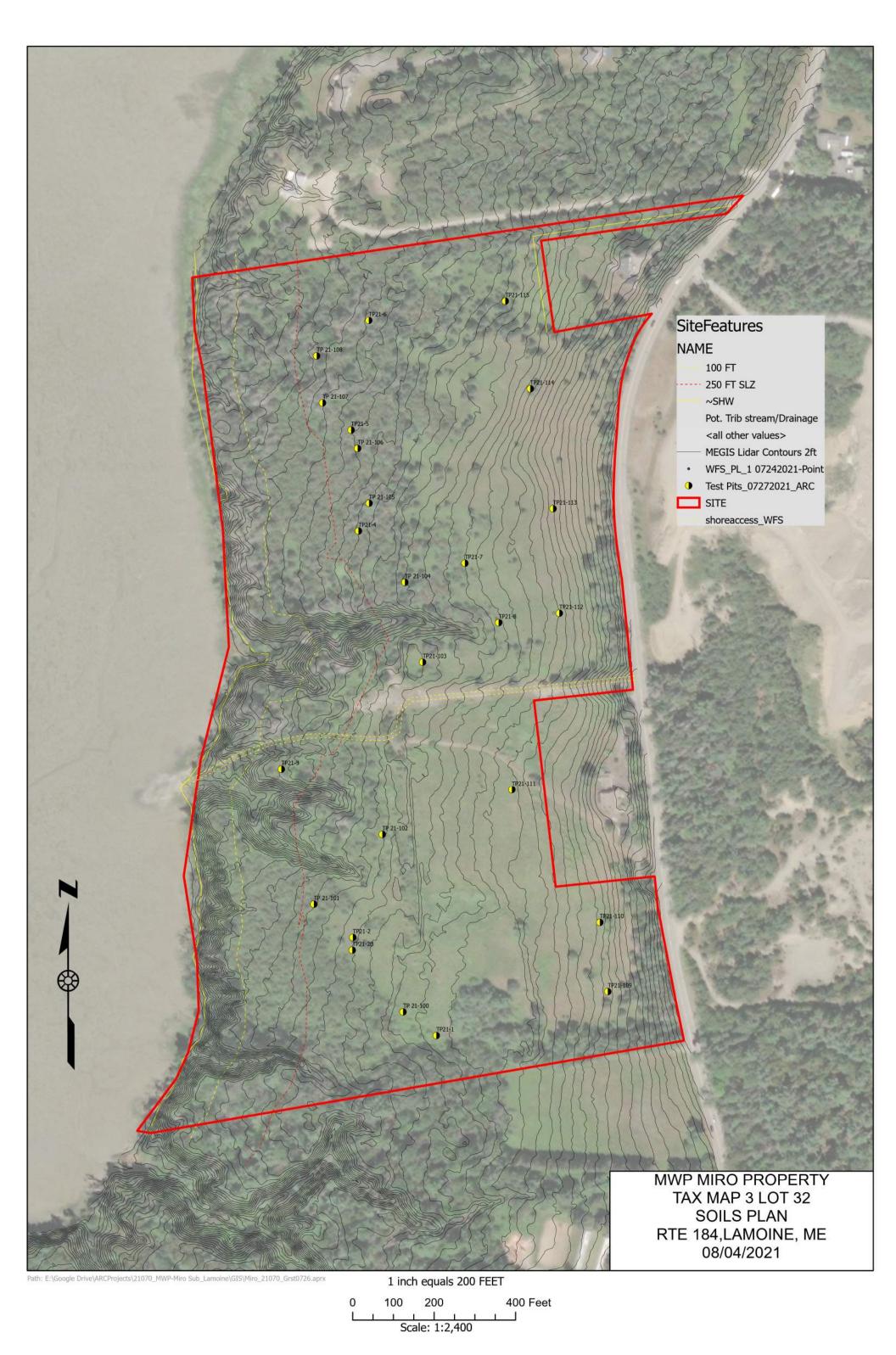
Roger St. Amand, Maine Licensed Site Evaluator #360

PRINCIPAL, ATLANTIC RESOURCE CO, LLC

Timothy J. Hodgins, Maine Licensed Site Evaluator #375

SENIOR ENVIRONMENTAL SCIENTIST, ATLANTIC RESOURCE CO, LLC

RST-TJH/ Encl.

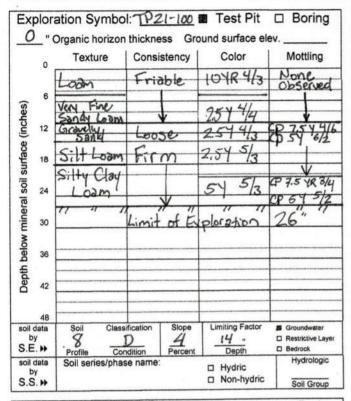


SOIL PROFILE / CLASSIFICATION INFORMATION

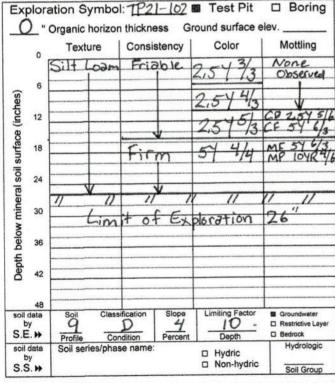
DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES

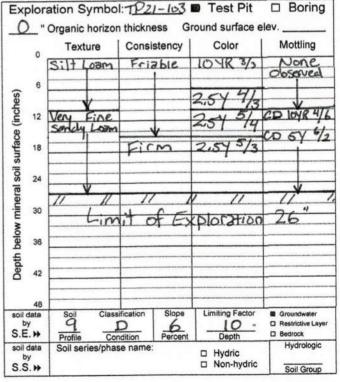
Project Owner Name: Project Location (municipality):

Maine Woodland Properties Lamoine, Maine



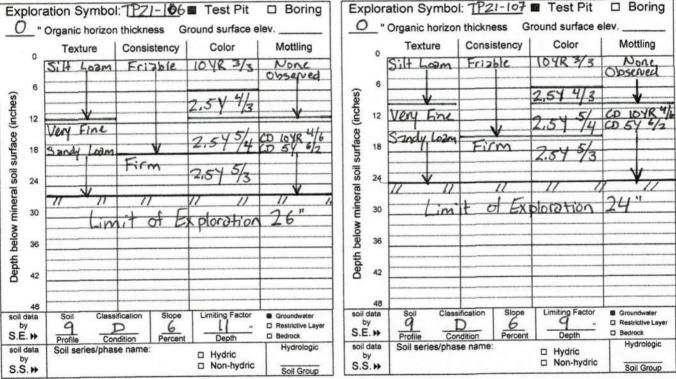
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	INVESTIGATOR INFORM	ATION AND SIGNATURE
Signature;		Date: 2021-68-04
Name Prin	orm J. Hassins	Cert/Lic/Reg. # Sを 3クタ
Title:	■ Licensed Site Evaluator □ Certified Geologist	© Certified Soil Scientist ☐ Other:

PAGE 2 OF 6 **FORM F 2/02** DETAILED DESCRIPTION OF SOIL PROFILE / CLASSIFICATION INFORMATION SUBSURFACE CONDITIONS AT PROJECT SITES Owner Name: Project Location (municipality): Project Maine Woodland Properties Lamoine, Maine Exploration Symbol: TP21-165 Test Pit Exploration Symbol: TP21-104 Test Pit Boring □ Boring O "Organic horizon thickness Ground surface elev. "Organic horizon thickness Ground surface elev. Texture Consistency Color Mottling Texture Consistency Color Mottling None Observed 104R 3/3 None 10 48 3/3 Frizble Silt Loam Friable Observed 6 below mineral soil surface (inches) Depth below mineral soil surface (inches) 12 12 Very Fine Very Fine Sandy Low 18 18 Low 24 24 30 (ploration xoloration 36 36 Depth I 42 42 48 soil data Limiting Factor soil data Limiting Factor B Groundwater 9 S.E. ₩ ☐ Restrictive Layer ☐ Restrictive Lave 6 10 S.E. » ☐ Bedrock Profile Condition Hydrologic Hydrologic soil data Soil series/phase name: soil data Soil series/phase name: □ Hydric ☐ Hydric S.S. ₩ S.S. ₩ □ Non-hydric □ Non-hydric Soil Group Soil Group Exploration Symbol: TP21-107 Test Pit □ Boring Exploration Symbol: TPZ1-106 ■ Test Pit □ Boring O "Organic horizon thickness Ground surface elev. O " Organic horizon thickness Ground surface elev. Mottling Texture Consistency Color Mottling Consistency Color Texture None 104R 3/3 10 YR 3/3 Silt Loam Frizble Frizble None observed 6 6



	INVESTIGATOR INFORM	ATION AND SIGNATURE	
Signature:		Date: 2021-08-04	
Name Pr	ntedhyped. Hoosens	Cert/Lic/Reg. #	
Title:	■ Licensed Site Evaluator □ Certified Geologist	☐ Certified Soil Scientist ☐ Other:	affix profes.

PAGE 3 OF 6 FORM F 2/02 DETAILED DESCRIPTION OF SOIL PROFILE / CLASSIFICATION INFORMATION SUBSURFACE CONDITIONS AT PROJECT SITES Owner Name: Project Project Location (municipality): Maine Woodland Properties Lamoine, Maine Exploration Symbol: ¬P21-108 ■ Test Pit □ Boring Exploration Symbol: TP 21-1 Test Pit □ Boring O "Organic horizon thickness Ground surface elev. "Organic horizon thickness Ground surface elev. Texture Color Texture Consistency Mottling Consistency Color Mottling 16 YR 3/3 None Friable None Friable Observed Depth below mineral soil surface (inches) below mineral soil surface (inches) 10 YR 12 12 CF 57 6/2 B 18 18 MP 104R 7/6 36 FID ery Fine 54 6/3 24 30 30 Silt Low Exploration 36 36 Depth of 42 42 soil data Limiting Facto soil data Soi Classification Slope Limiting Factor Slop 9 5 20 ☐ Restrictive Layer D 13 ☐ Restrictive Layer S.E. » S.E. » ☐ Bedrock Depth Condition Profile Condition Hydrologic soil data soil data Soil series/phase name Hydrologic Soil series/phase name: ☐ Hydric ☐ Hydric S.S. » S.S. >> ☐ Non-hydric □ Non-hydric Soil Group Soil Group Exploration Symbol: #21-3 Test Pit Exploration Symbol: TP21-265 Test Pit □ Boring □ Boring " Organic horizon thickness Ground surface elev. l "Organic horizon thickness Ground surface elev. Consistency Color Mottling Color Mottling Texture Texture Consistency 4 1048 3/2 None 10 YR 3/3 Frizble Silt Loam None Observed Observed 6 below mineral soil surface (inches) mineral soil surface (inches) 12 2,54 18 G/D 18 010 MIP Silty Clay Firm 24 Silty azu Odm 30 30 below xploration 36 Depth | Depth 42 42 Limiting Factor soil data Slope ■ Groundwate Limiting Facto soil data @ Groundwate 9 ☐ Restrictive Laver 9 6 5 14 ☐ Restrictive Layer S.E. » S.E. > ☐ Bedrock Profile Condition Condition Profile soil data Hydrologic Hydrologic Soil series/phase name: soil data Soil series/phase name □ Hydric ☐ Hydric □ Non-hydric S.S. N □ Non-hydric S.S. >> Soil Group INVESTIGATOR INFORMATION AND SIGNATURE Signature: Date: 2021 Name Printed/typed: Cert/Lic/Reg. # **SE 360**

Roger St.Amand

Title:

■ Licensed Site Evaluator

□ Certified Geologist

	6 of 9	9

affix professional seal

SS 471

Certified Soil Scientist

☐ Other:

■ Licensed Site Evaluator

□ Certified Geologist

Title:

FORM F 2/02 DETAILED DESCRIPTION OF SOIL PROFILE / CLASSIFICATION INFORMATION SUBSURFACE CONDITIONS AT PROJECT SITES Owner Name: Project Project Location (municipality): Maine Woodland Proportion Lamoine, Exploration Symbol: TP21-Y ■ Test Pit □ Boring Exploration Symbol: TP21-5 Test Pit " Organic horizon thickness Ground surface elev. " Organic horizon thickness Ground surface elev. Texture Consistency Color Mottling Texture Consistency Color Mottling Ap None Silt Loam None Friable 104R 3/3 Frizble Observed oservec surface (inches) Depth below mineral soil surface (inches) Bw 12 B(BC $C_{d_{a}}$ below mineral soil Silty Clay Firm C/P Luam Loan 30 30 placation Depth 42 42 soil data Limiting Facto soil data Limiting Factor 9 **B** Groundwate 14 S.E. 9 D 6 13 ☐ Restrictive Layer ☐ Restrictive Lave S.E. N ☐ Bedrock Condition Condition Hydrologic Hydrologic soil data Soil series/phase name soil data Soil series/phase name: ☐ Hydric ☐ Hydric s.s. ₩ S.S. ₩ □ Non-hydric □ Non-hydric Soil Group Soil Group Exploration Symbol: TPZ1-7 Test Pit □ Boring Exploration Symbol: TP21-6 Test Pit □ Boring " Organic horizon thickness Ground surface elev " Organic horizon thickness Ground surface elev. Mottling Consistency Color Mottling Texture Consistency Color Observed 10423/4 Frizble Frizble 164R3/3 None Observed 6 below mineral soil surface (inches) Depth below mineral soil surface (inches Bw 12 B 10 YR 4/4 BL B2 18 C/D C/D Silty Clay CZP pam 24 CIP Sitty Clay FIRM 54 5/2 0 30 LOZN 30 morts 1019x 36 Depth doration 42 soil data Limiting Factor soil data Classification Slope Groundwate S.E. 9 T ☐ Restrictive Layer ☐ Restrictive Laye 9 S.E. W ☐ Bedrock Condition Depth Profile Condition Hydrologic Hydrologic soil data Soil series/phase name: soil data Soil series/phase name ☐ Hydric ☐ Hydric by ☐ Non-hydric □ Non-hydric S.S. » S.S. H Soil Group Soil Group INVESTIGATOR INFORMATION AND SIGNATURE Signature: Date: 2021 Name Printed/typed: Cert/Lic/Reg. # SE 360 Roger St.Amand SS 471 ■ Certified Soil Scientist

☐ Other:

DETAILED DESCRIPTION OF SOIL PROFILE / CLASSIFICATION INFORMATION SUBSURFACE CONDITIONS AT PROJECT SITES Owner Name: Project Project Location (municipality): Maine Woodland Properties Lamoine. Maine Exploration Symbol: TP21-8 Test Pit Boring Exploration Symbol: TP21-109 Test Pit "Organic horizon thickness Ground surface elev. " Organic horizon thickness Ground surface elev. Texture Consistency Color Mottling Texture Consistency Color Mottling Silt Loam 10 YR 3/2 None Fine Sandy WYR 3/3 None Frizble Frizhle Observed 6 6 Depth below mineral soil surface (inches) surface (inches) 10 VK 7/T 12 12 Gravelly 10 4R 4/6 18 18 Loam mineral soil 100 5e 24 24 Gracelle Silt LOOM 5/3 2.5 F/F 30 30 below 10 4R 4/4 gravelly 30 plocation 36 Depth 37 42 42 DIOFATION 48 soil data soil data ☐ Groundwater Limiting Facto ■ Groundwater N. O. . s.E. ₩ 20 S.E. » 7 11 6 ☐ Restrictive Layer ☐ Restrictive Layer Profile Condition Condition soil data soil data Soil series/phase name Hydrologic Soil series/phase name: Hydrologic ☐ Hydric ☐ Hydric S.S. # ☐ Non-hydric S.S. # □ Non-hydric Soil Group Soil Group Exploration Symbol: TP21-111 Test Pit Exploration Symbol: TPZ1-110 Test Pit ☐ Boring □ Boring O "Organic horizon thickness Ground surface elev. " Organic horizon thickness Ground surface elev. Consistency Color Mottling Texture Consistency Color Mottling Texture 0 None 10 4R 3/3 10 YR 3/3 Frizble None Fine triable Opserved andy Loan Observed Depth below mineral soil surface (inches) Depth below mineral soil surface (inches) 10 YR 4/4 12 12 10 YR 4/4 Grandly 1048 4/L 18 18 Granelly Fine Firm 24 24 il+ Lozm 30 30 2,54 5/3 CP LOYR4/6 NOTESTOLOX Very Fine Danily Loim 546/2 36 42 42 Exploration imit 48 Limiting Factor soil data Slope Groundwater soil data Soil 8 Profile Groundwater S.E. » 14 ☐ Restrictive Layer 11 ☐ Restrictive Laye S.E. » Condition Depth Condition soil data Hydrologic soil data Soil series/phase name Hydrologic Soil series/phase name □ Hydric □ Hydric S.S. » □ Non-hydric □ Non-hydric S.S. # Soil Group Soil Group SIGNATURE INVESTIGATOR INFORMATION AND Signature Cert/Lic/Reg. # Name Printed/typed: SE 375 Tom STHY J. HODGINS Licensed Site Evaluator Certified Soil Scientist Title:

☐ Other:

□ Certified Geologist

■ Licensed Site Evaluator

□ Certified Geologist

Title:

FORM F 2/02 DETAILED DESCRIPTION OF SOIL PROFILE / CLASSIFICATION INFORMATION SUBSURFACE CONDITIONS AT PROJECT SITES Owner Name: Project Location (municipality): Project Woodland Properties Maine Lamoine Maire Exploration Symbol: TP21-112 Test Pit Boring Exploration Symbol: TP21-113 Test Pit O " Organic horizon thickness Ground surface elev. O "Organic horizon thickness Ground surface elev. Texture Consistency Color Mottling Consistency Color Mottling None 10 YR 3/3 Silf Lozan 10 YR 3/2 None Fine Sandy Hizble Friable Ossesved Observed Loam 6 104R 4/4 Depth below mineral soil surface (inches) Depth below mineral soil surface (inches) 10 ye 4/4 12 12 Loam 7.5 YR 4/1 Loose and 18 18 CP 104R4/6 10 YR 4/2 CP WYR4/6 Firm 24 24 10 YK 30 30 36 36 exploration im 42 42 Limiting Factor Limiting Factor soil data soil data Classification Slope Groundwate N. 0 ☐ Restrictive Laye 7 5 ☐ Restrictive Layer S.E. W S.E. » ☐ Bedrock Profile Condition Hydrologic soil data Hydrologic Soil series/phase name soil data Soil series/phase name ☐ Hydric ☐ Hydric S.S. ₩ S.S. » □ Non-hydric □ Non-hydric Soil Group Soil Group Exploration Symbol: TP21-115 Test Pit □ Boring Exploration Symbol: TP21-114 Test Pit □ Boring O "Organic horizon thickness Ground surface elev. O " Organic horizon thickness Ground surface elev. Consistency Color Mottling Texture Mottling Texture Consistency Color None Fine Sundy Friable 1648 3/3 Silf Loam Friable 104R 3/3 None Doserved 020 6 6 104R4/3 mineral soil surface (inches) soil surface (inches) Granelly sand 7.5 YR 4/6 12 12 10 YR 4/6 CD LOYR 4/1 754 5/4 18 18 Firm to Very Firm Hy Loam CP 7.5483/ Granely Loza 24 24 CP 54 6/3 mineral 30 30 Exploration below below 36 36 Axploration Depth Depth 42 42 imiting Factor Slope Limiting Facto Groundwater soil data Classification soil data Groundwate Classification 15 9 15 ☐ Restrictive Layer 11 S.E. » ☐ Bedrock S.E. » ☐ Bedrock Condition Depth Profile Profile Condition Depth Hydrologic soil data Soil series/phase name: soil data Soil series/phase name: ☐ Hydric Hydric ☐ Non-hydric □ Non-hydric S.S. H Soil Group S.S. >> INVESTIGATOR INFORMATION AND SIGNATURE Date: Signature 2021-08-04 Cert/Lic/Reg. # Name Printed/typed: SE 375 TIMOTHY J. HOBEINS Certified Soil Scientist

☐ Other: